

County Ex D

July 15, 1971

Dover Office of Public Works  
Tybouts Corner  
P.O. Box 155  
Wilmington, Delaware 19802

Re: City Landfill Study  
Case J.C. 71006-A

Attention: Mr. Ulises Mariano, County Engineer

Gentlemen:

In accordance with the discussion at the Tybouts Corner Sanitary Landfill site today regarding the leachate problems, we are suggesting the following interim solution:

1. The total volume of the water involved was estimated to be 5.5 million gallons (~100 m<sup>3</sup>) in the final pond and about 1.5 m<sup>3</sup> in the other ponds with a total of about 7.0 m<sup>3</sup>. This volume was based on the assumption that the final pond was 1.0' x 10' x 3' overall depth. The chlorine demand was estimated to be 20 mg/l in absence of any better data at the present time. The total amount of high-test calcium hypochlorite (HTC) available chlorine NTH needed will be about 1700 lbs.

The solubility of NTH is about 20 grams per 100 ml or about 90.3 NTH in 50 gallons of water. Therefore, the dispersal of NTH should be made in a solution drawn in a clean 55 gallon drum with a hand pump attached to the top. It will take about 20 such applications to deliver the desired 1700# dose to the water. It is proposed that about 13 applications from the drum (~1150# NTH) be discharged as uniformly as possible into the final pond either from a boat or preferably by a boat with the chlorine solution discharge pipe submerged while the boat is moving. The balance NTH (~550#) be applied to the remaining ponds preferably at the inlet and outlet points.

The application of NTH should definitely clear up the odor and some darkness of the water.

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After "1-1-1" is done within a week or so another lower dose may be required. The exact amount will be determined.

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Mr. Ulidis Marinas

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2. The air blower system already in place in the final pond can be further refined by using a longer hose with 1/4 inch diameter holes drilled along the side attached to the existing hose. The added aeration will also help oxidize the organic matter.

We hope these interim measures will clear the present situation, while we investigate the long term solution.

We will charge the time spent on the landfill study as an extra item on the present contract.

Very truly yours,

MATZ, CHILDS & ASSOCIATES, INC.

*GNB*

Shankha K. Banerji, Ph.D., P.E.

SKB:jlm

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